

Remarks

A. Pending Claims

Claims 15, 21, 27, 39, and 41-43 are amended. Claims 44-50 are new. Claim 40 has been cancelled. Claims 15-39 and 41-50 are pending.

B. Examiner Interview Summary Pursuant to 37 C.F.R. § 1.133(b)

On September 30, 2009, Examiner Schillinger and attorneys for Applicant (Eric B. Meyertons, Reg. No. 34,876 and Chris Drymallia, Reg. No. 61,843) participated in a telephone interview to discuss certain rejections of the claims. During the teleconference, Applicant agreed to amend certain claim language to further clarify certain features of the claims. As a result of the teleconference, Examiner Schillinger requested that Applicant file a Request for Continued Examination along with the amendments to the claims.

C. The Claims are Not Anticipated by Vaccaro under 35 U.S.C. §102(b)

In the Office Action, claims 15-17, 19-23, 25-29, 32-34, and 39-43 were rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Pat. No. 6,102,950 to Vaccaro (“Vaccaro”). Applicant respectfully submits that the claims are allowable over the cited art for at least the following reasons.

The standard for “anticipation” is one of fairly strict identity. A claim can only be anticipated if each and every element set forth in the claims is found to be either expressly or inherently described in the cited art. *Verdegaal Bros. V. Union Oil Co. of California*, 814 F.2d 728, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987), MPEP §2131. “All words in a claim must be considered in judging the patentability of that claim against the prior art.” *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970), MPEP 2143.03.

Independent Claim 15

Amended claim 15 describes a combination of features, including but not limited to:

an insert comprising a support surface for the second vertebra, wherein the support surface, during use, supports at least a portion of the second

vertebra above and away from the superior surface of the cage element and inhibits movement of the second vertebra towards the first vertebra, and wherein the insert, during use, is positioned at least partially in the cage element; and

an expansion member that, during use, is inserted in the cage element through an opening in a side of the cage element to expand the intervertebral implant by elevating the insert to move a portion of the insert through the first opening in the superior surface of the cage element so that at least a portion of the support surface of the insert is raised above and away from the superior surface of the cage to support at least a portion of the second vertebra above and away from the superior surface of the cage element.

Vaccaro does not appear to disclose at least the above quoted features in combination with other features of claim 15.

With respect to claim 15, the Office Action states:

Vaccaro discloses the following of the claimed invention: an intervertebral implant for a human spine, comprising: a cage element (20) with openings on its superior and inferior surfaces (please see Figure 2), and a side opening (70); first and second inserts with substantially planar support surfaces (upper and lower elements 50); an expansion member (40); and a raised portion (52). Please also see col. 6, lines 27-41, and col. 7, lines 15-64.

(Office Action, page 2)

Vaccaro discloses an intervertebral body fusion device having a wedge body, a cage component with a plurality of deployable spines having end plate penetrating teeth, and a contraction mechanism for drawing the wedge body into the cage component. (Vaccaro, abstract). In its final surgically-implanted position, the wedge body is substantially fully drawn within the cage component, resulting in a full deployment of teeth and associated spines into the adjacent end plates of the vertebral bodies. (Vaccaro, abstract). A cage component 20 includes a rigid upper member 22 defining a bearing surface 22a and an opposing interior surface 22b, and, a rigid lower member 24 also defining both a bearing surface 24a and an opposing interior surface 24b. (Vaccaro, col. 5, lines 32-35). The cage includes spines 50 integrally formed to depend from either an upper member 22 or a lower member 24. (Vaccaro, col. 6, lines 37-39). Each spine 50 has at lease one tooth 52 facing outwardly at the free end 54, the tooth preferably forming a penetrating tip or spike. (Vaccaro, col. 6, lines 39-41). During use, each tooth 52 is

fully deployed beyond an associated bearing surface 22a, 24a. (Vaccaro, col. 7, lines 28-29). Accordingly, Vaccaro appears to disclose teeth that are deployed beyond bearing surfaces such that the teeth penetrate into adjacent endplates of vertebral bodies. The bearing surfaces appear to be a fixed portion of the cage. Vaccaro, however, does not appear to disclose at least the features of, "an insert comprising a support surface for the second vertebra, wherein the support surface, during use, supports at least a portion of the second vertebra above and away from the superior surface of the cage element and inhibits movement of the second vertebra towards the first vertebra, and wherein the insert, during use, is positioned at least partially in the cage element," and "an expansion member that, during use, is inserted in the cage element through an opening in a side of the cage element to expand the intervertebral implant by elevating the insert to move a portion of the insert through the first opening in the superior surface of the cage element so that at least a portion of the support surface of the insert is raised above and away from the superior surface of the cage to support at least a portion of the second vertebra above and away from the superior surface of the cage element," in combination with other features of the claim.

For at least these reasons, Applicant respectfully submits that claim 15 is allowable over the cited art.

Independent Claim 21

Amended claim 21 describes a combination of features, including but not limited to:

- an insert comprising an inferior surface and a support surface for the second vertebra, wherein the support surface, during use, supports the at least a portion of the second vertebra above and away from the superior surface of the cage element and inhibits movement of the second vertebra towards the first vertebra, wherein the insert, during use, is positioned in the cage element such that at least a portion of the inferior surface of the insert is below the superior surface of the cage element and at least a portion of the support surface of the insert is above the superior surface of the cage element to support at least a portion of the second vertebra above and away from the superior surface of the cage element; and
- an expansion member that, during use, is inserted in the cage element through an opening in a side of the cage element to elevate at least a portion of the insert through the opening in the superior surface of the

cage element so that the support surface of the insert is raised above and away from the superior surface of the cage to support at least a portion of the second vertebra above and away from the superior surface of the cage element

For at least reasons similar to those discussed above, Applicant submits that claim 21 is allowable over the cited art. Moreover, Applicant submits that Vaccaro does not appear to disclose the feature of, "wherein the insert, during use, is positioned in the cage element such that at least a portion of the inferior surface of the insert is below the superior surface of the cage element and at least a portion of the support surface of the insert is above the superior surface of the cage element to support at least a portion of the second vertebra above and away from the superior surface of the cage element," in combination with other features recited by claim 21.

For at least these reasons, Applicant submits that claim 21 is allowable over the cited art.

Independent Claim 27

Amended claim 27 describes a combination of features, including but not limited to:

- a first insert, wherein, during use, at least a portion of the first insert is positioned in the first opening, and wherein the first insert comprises a support surface that, during use, supports at least a portion of a first vertebra below and away from the inferior surface of the cage element and inhibits movement of the first vertebra towards a second vertebra;
 - a second insert, wherein, during use, at least a portion of the second insert is positioned in the second opening, and wherein the second insert comprises a support surface that, during use, supports at least a portion of a second vertebra above and away from the superior surface of the cage element and inhibits movement of the second vertebra towards the first vertebra; and
 - an expansion member that, during use, is inserted in a third opening in the cage element to lower the support surface of the first insert below and away from the inferior surface of the cage element to support at least a portion of the first vertebra below and away from the inferior surface of the cage element and inhibit movement of the first vertebra towards a second vertebra,
- wherein the expansion member when inserted in the third opening raises the support surface of the second insert above and away from the superior surface of the cage element to support at least a portion of the second vertebra above and away from the superior surface of the cage

element and inhibit movement of the second vertebra towards the first vertebra.

For at least reasons similar to those discussed above, Applicant submits that claim 27 is allowable over the cited art.

Independent Claim 39

Amended claim 27 describes a combination of features, including but not limited to:

an expansion element that, during use, is inserted between the first inferior surface of the first member and the second superior surface of the second member, wherein insertion of the expansion member expands the first and second members relative to one another to increase a separation distance between the first superior surface of the first member and the second inferior surface of the second member, wherein the first superior surface is expanded above the superior surface of the cage and the second inferior surface is expanded below the inferior surface of the cage, such that the distance between the first superior surface and the second inferior surface is greater than the distance between the superior surface and the inferior surface of the cage, and wherein the first superior surface supports at least a portion of the first vertebra above the superior surface of the cage and the second inferior surface supports at least a portion of the second vertebra below the inferior surface of the cage.

For at least reasons similar to those discussed above, Applicant submits that claim 39 is allowable over the cited art.

D. The Claims Are Not Obvious over Vaccaro in view of Sertich under 35 U.S.C. §103(a)

In the Office Action, claims 18, 24, 30, and 31 were rejected under 35 U.S.C. 103(a) as being unpatentable over Vaccaro in view of U.S. Pat. No. 5,800,550 to Sertich (“Sertich”). Applicant submits that claims 18, 24, 30 and 31 are patentable over the cited art for at least reasons similar to those discussed above.

E. The Claims Are Not Obvious over Vaccaro under 35 U.S.C. §103(a)

In the Office Action claims 35-38 were rejected under 35 U.S.C. 103(a) as being

unpatentable over Vaccaro. Applicant respectfully disagrees with this rejection for at least the following reasons. Applicant submits that claims 35-38 are patentable over the cited art for at least reasons similar to those discussed above.

F. New Claims

New claim 44 recites a combination of features including, “The intervertebral implant of claim 15, wherein the support surface of the insert comprises a substantially planar surface of sufficient cross-sectional area to support the second vertebra above and away from the superior surface of the cage element during use.” Applicant submits that at least these features, in combination with other features of the claim, are not taught or suggested by the prior art.

New claim 45 recites a combination of features including, “The intervertebral implant of claim 15, wherein, during use, the support surface of the insert supports the second vertebra above and away from the superior surface of the cage element such that the second vertebra does not contact the superior surface of the cage element.” Applicant submits that at least these features, in combination with other features of the claim, are not taught or suggested by the prior art.

New claim 46 recites a combination of features including, “The intervertebral implant of claim 21, wherein the support surface of the insert comprises a substantially planar surface of sufficient cross-sectional area to support the second vertebra above and away from the superior surface of the cage element during use.” Applicant submits that at least these features, in combination with other features of the claim, are not taught or suggested by the prior art.

New claim 47 recites a combination of features including, “The intervertebral implant of claim 21, wherein, during use, the support surface of the insert supports the second vertebra above and away from the superior surface of the cage element such that the second vertebra does not contact the superior surface of the cage element.” Applicant submits that at least these features, in combination with other features of the claim, are not taught or suggested by the prior art.

New claim 48 recites a combination of features including, “The intervertebral implant of claim 27, wherein the support surface of the first insert comprises a substantially planar surface of sufficient cross-sectional area to support the second vertebra below and away from the inferior surface of the cage element during use, and wherein the support surface of the second insert comprises a substantially planar surface of sufficient cross-sectional area to support the second vertebra above and away from the superior surface of the cage element during use.” Applicant submits that at least these features, in combination with other features of the claim, are not taught or suggested by the prior art.

New claim 49 recites a combination of features including, “The intervertebral implant of claim 27, wherein, during use, the support surface of the first insert supports at least a portion of a first vertebra below and away from the inferior surface of the cage element such that the first vertebra does not contact the inferior surface of the cage element, and the support surface of the second insert supports at least a portion of a second vertebra above and away from the superior surface of the cage element such that the second vertebra does not contact the superior surface of the cage element.” Applicant submits that at least these features, in combination with other features of the claim, are not taught or suggested by the prior art.

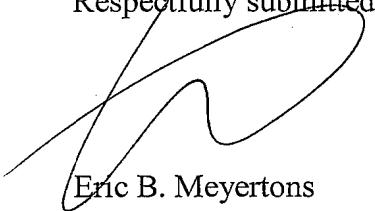
New claim 50 recites a combination of features including, “An intervertebral implant, comprising: a cage element implanted between a first vertebra and a second vertebra during use, wherein the cage element comprises a first surface facing the first vertebra and a second surface facing the second vertebra when implanted; and a means for supporting the first vertebra in a position away from the first surface of the cage element.” Applicant submits that at least these features, in combination with other features of the claim, are not taught or suggested by the prior art.

G. Additional Comments

Applicant submits that all claims are in condition for allowance. Favorable consideration is respectfully requested.

Authorization for an extension of time, excess claims fees, and the fee for a Request For Continued Examination will be made upon electronic submission of this document. If any other fees are required, or have been overpaid, please appropriately charge those fees to Meyertons, Hood, Kivlin, Kowert & Goetzel, P.C. Deposit Account Number 50-1505/5943-00300/EBM.

Respectfully submitted,



Eric B. Meyertons
Reg. No. 34,876

Attorney for Applicant

MEYERTONS, HOOD, KIVLIN, KOWERT & GOETZEL, P.C.
P.O. Box 398
Austin, TX 78767-0398
(512) 853-8800 (voice) (512) 853-8801 (facsimile)

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